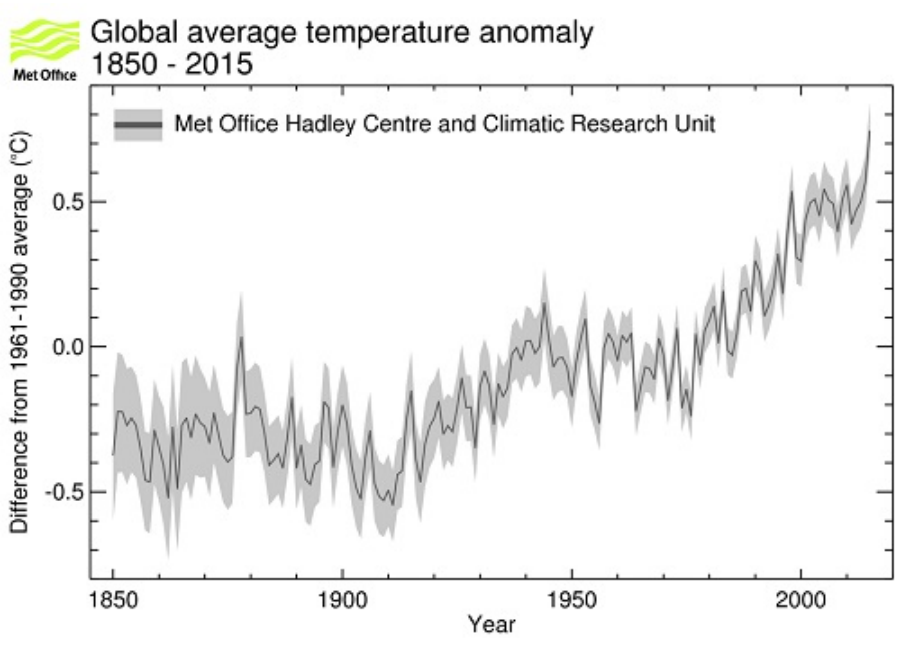
20 January 2016 - Provisional full-year figures for global average temperatures reveal that 2015 was the warmest year in a record dating back to 1850

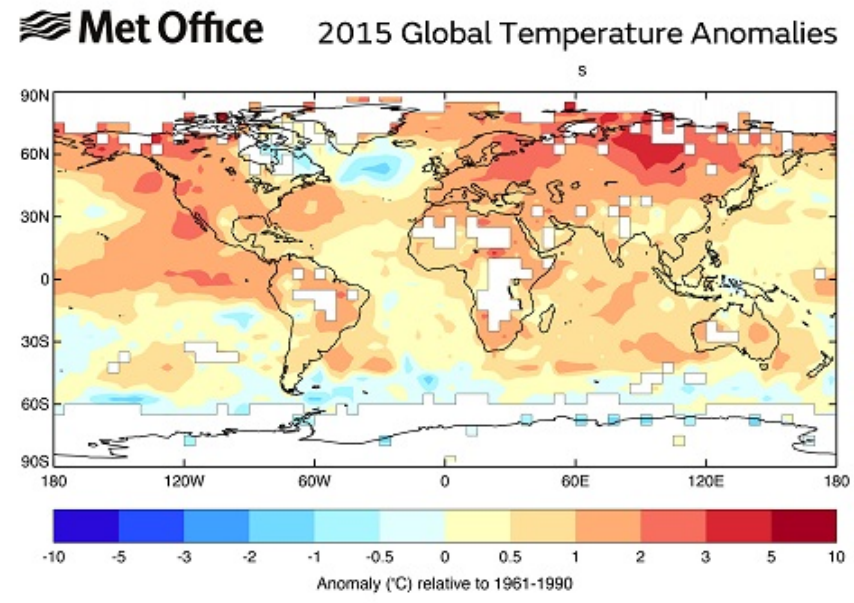
Scientists at the Met Office Hadley Centre and the University of East Anglia's Climatic Research Unit produce the HadCRUT4 dataset, which is used to estimate global temperature. The global temperature series shows that 2015 was 0.75 ±0.1 °C above the long-term (1961-1990) average, a record since at least 1850. When compared with the pre-industrial period, the 2015 average global temperature was around 1 °C above the long-term average from 1850 to 1900.



Peter Stott is head of climate monitoring and attribution at the Met Office Hadley Centre. He said: "2015 was a record-breaking year for our climate. Global mean temperatures reached 1 °C above pre-industrial levels* for the first time and the year's average global temperature was the highest ever recorded."

The estimated figure of 0.75°C ±0.1 °C above the long-term (1961-1990) average is within the predicted range from the Met Office annual global temperature forecast. The forecast was for the average global temperature in 2015 to be between 0.52 °C and 0.76 °C above the long-term (1961-1990) average, with a central estimate of 0.64 °C. The forecast made in 2014 had correctly predicted that 2015 was very likely to be one of the warmest years in the record.

Prof Phil Jones, from the University of East Anglia's Climatic Research Unit, said: "While there is a strong El Niño-elevated global temperature this year, it is clear that human influence is driving our climate into uncharted territory."



Updates to the HadCRUT4 dataset are compiled from many thousands of temperature measurements taken across the globe, on land and at sea, each day.

Uncertainties arising from incomplete global coverage, particularly a lack of observations from polar regions, and limitations of the measurements used to produce the data sets, have been included in the calculations. Peter Stott added: "Remaining uncertainties are clearly much smaller than the overall warming seen since pre-industrial times."

Global average temperature anomalies since 2000

	HadCRUT4 global average temperature anomaly (°C) compared to 1961 - 1990 average	
Year	Anomaly	95 % confidence range
2015	0.75	0.65 to 0.84
2014	0.57	0.48 to 0.66
2013	0.50	0.41 to 0.59
2012	0.47	0.38 to 0.56
2011	0.42	0.33 to 0.51
2010	0.56	0.47 to 0.65
2009	0.51	0.41 to 0.60
2008	0.40	0.31 to 0.48
2007	0.49	0.41 to 0.58
2006	0.50	0.42 to 0.60
2005	0.54	0.45 to 0.64
2004	0.45	0.36 to 0.54
2003	0.51	0.42 to 0.60
2002	0.50	0.41 to 0.59
2001	0.44	0.35 to 0.53
2000	0.29	0.21 to 0.39

* While late 19th century temperatures are commonly taken to be indicative of pre-industrial, there is no fixed period that is used as standard and a variety of other periods have been used for observational and palaeo datasets. There are limitations in available data in the early instrumental record, making the average temperature in the reference period less certain. There is not a reliable indicator of global temperatures back to 1750, which is the era widely assumed to represent pre-industrial conditions. Therefore 1850-1900 is chosen here as the most reliable reference period, which also corresponds to the period chosen by IPCC to represent a suitable earlier reference period.

Last updated: 21 January 2016